

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (currently amended) A biosensor device which comprises:

a strip of a substrate having at least two zones wherein a

(1) first of the zones contains a first capture reagent bound to the substrate in a defined area between electrodes on different sides of the defined area for providing an electrical bias to the defined area; and

(2) a second of the zones containing a fluid transfer medium for supplying a fluid to the first zone, wherein the second zone comprises a second defined area containing a second capture reagent bound to an electrically conductive polymer in absence of electrically conductive metal particles, wherein when a fluid sample containing an analyte is bound by the second capture reagent to form a complex ~~in absence of electrically conductive metal particles in the complex~~, the complex migrates to the first zone in the medium and the analyte is bound by the

first capture reagent thereby altering a conductivity or resistance of the defined area in the first zone as measured between the electrodes to detect the analyte.

2. (original) The device of Claim 1 wherein the device further comprises a third zone adjacent to the first zone into which the fluid is absorbed after passing through the first defined area of the first zone.

3. (original) The device of any one of Claims 1 or 2 wherein the first defined area has a dimension between the electrodes of 1.0 mm or less.

4-6 (cancelled)

7. (currently amended) A system for detecting an analyte in a fluid sample which comprises:

(a) a biosensor device which comprises:

a strip of a substrate having at least two zones wherein a

(1) first of the zones contains a first capture reagent bound to the substrate in a defined area between

electrodes on different sides of the defined area for providing an electrical bias to the defined area; and

(2) a second of the zones containing a fluid transfer medium for supplying a fluid to the first zone, wherein the second zone comprises a second defined area containing a second capture reagent bound to an electrically conductive polymer in absence of electrically conductive metal particles, wherein when a fluid sample containing an analyte is bound by the second capture reagent to form a complex ~~in absence of any electrically conductive metal particles in the complex~~, the complex migrates to the first zone in the medium and the analyte is bound by the first capture reagent thereby altering a conductivity or resistance of the defined area in the first zone as measured between the electrodes;

(b) electrical means for supplying an electrical bias between the electrodes; and

(c) measuring means for determining a change in the conductivity or resistance of the first area before and after application of the sample in the second zone to detect the analyte.

8. (currently amended) A biosensor device which comprises:

a strip of a substrate having at least two zones wherein a

(1) first of the zones contains a first antibody bound to the substrate in a defined area between electrodes on different sides of the defined area for providing an electrical bias to the defined area; and

(2) a second of the zones containing a fluid transfer medium for supplying a fluid to the first zone, wherein the second zone comprises a second defined area containing a second antibody bound to an electrically conductive polymer in absence of electrically conductive metal particles, wherein when a fluid sample containing an antigen ~~which~~ enters the second defined area of the second zone, the antigen is bound by the second antibody, which is bound to the conductive polymer, ~~forms~~ to form a complex ~~in absence of any electrically conductive metal particles in the complex~~, the complex migrates to the first zone in the medium and the antigen is bound by the

first antibody thereby altering a conductivity or resistance of the defined area in the first zone as measured between the electrodes to detect the antigen.

9. (original) The device of Claim 8 wherein the device further comprises a third zone adjacent to the first zone into which the fluid is absorbed after passing through the first defined area of the first zone.

10. (original) The device of any one of Claims 8 or 9 wherein the first defined area has a dimension between the electrodes of 1.0 mm or less.

11-13 (cancelled)

14. (currently amended) A system for detecting an antigen in a fluid sample which comprises:

(a) a biosensor device which comprises:

a strip of a substrate having at least two zones wherein a

(1) first of the zones contains a first antibody bound to the substrate in a defined area between

electrodes on different sides of the defined area for providing an electrical bias to the defined area; and

(2) a second of the zones containing a fluid transfer medium for supplying a fluid to the first zone, wherein the second zone comprises a second defined area containing a second antibody bound to an electrically conductive polymer in absence of electrically conductive metal particles, wherein when a fluid sample containing an antigen which enters the second defined area of the second zone, the antigen is bound by the second antibody, which is bound to the conductive polymer, forms to form a complex ~~in absence of any electrically conductive metal particles in the complex~~, the complex migrates to the first zone in the medium and the antigen is bound by the first antibody thereby altering a conductivity or resistance of the defined area in the first zone as measured between the electrodes;

(b) electrical means for supplying an electrical bias between the electrodes; and

(c) measuring means for determining a change in the conductivity or resistance of the first area before and after application of the sample in the second zone to

detect the antigen.

15. (previously presented) The system of Claim 14 wherein the device further comprises a third zone adjacent to the first zone into which the fluid is absorbed after passing through the first defined area of the first zone.

16. (previously presented) The device of Claim 1 or 2 wherein a third zone adjacent to the second zone is provided for applying the fluid sample containing the analyte prior to being introduced into the second zone.

17. (cancelled)

18. (previously presented) The system of Claim 7 or 8 wherein a pad adjacent to the second zone is provided for applying the fluid sample containing the analyte prior to being introduced into the second zone.

19. (previously presented) The device of Claim 8 or 9 wherein a pad adjacent to the second zone is provided for applying the fluid sample containing the analyte prior to

being introduced into the second zone.

20. (cancelled)

21. (previously presented) The system of Claim 14 or 15 wherein a pad adjacent to the second zone is provided for applying the fluid sample containing the analyte prior to being introduced into the second zone.

22. (previously presented) The device of Claim 1 or 2 as a multiple array of devices grouped together separately on the substrate so that multiple analytes can be detected simultaneously from the same sample.

23. (cancelled)

24. (previously presented) The device of Claim 8 or 9 as a multiple array of devices grouped together separately on the substrate so that multiple analytes are detected simultaneously from the same sample.

25. (cancelled)

MSU 4.1-587
Appl. No. 10/074,499
Amdt. dated June 7, 2005
Reply to Office Action of October 06, 2004

26. (previously presented) The system of Claim 14 or 15 as a multiple array of devices grouped together separately on the substrate so that multiple analytes can be detected simultaneously from the sample.